



Department of Commerce

## Safety & Buildings Division

201 West Washington Avenue

P.O. Box 2658

Madison, WI 53701-2658

Evaluation # 200267-I (Replaces 200200-I)

# Wisconsin Building Products Evaluation

Material

CrownTonka Walk-In Coolers & Freezers

Manufacturer

Crown Fixtures, Inc.  
10700 Hwy. 55, Suite 160  
Plymouth, MN 55441

### SCOPE OF EVALUATION

**GENERAL:** This report evaluates the use of foam plastic material used in walk-in coolers, freezers and refrigerated facilities, manufactured by Crown Fixtures.

The cited **IBC** requirements below are in accordance with of the current **Wisconsin Amended ICC 2000 Code**:

- **Foam Plastic Core Material:** The CrownTonka and Thermalrite foam plastic sandwich panel was evaluated under the foam plastic requirements in accordance with **ss. IBC 2603.1, 2603.2, 2603.3** and **Exception 2, 2603.5.2, 2603.5.2** and **s. IBC 2603.7**.
- **Nonstructural Wall and Ceiling Panel:** The CrownTonka and Thermalrite foam plastic sandwich panel was evaluated as a nonstructural insulated wall and ceiling panel used in refrigerated facilities and freezer warehouses in accordance with **ss. IBC 2603.4.1.2, 2603.4.1.3, 2603.5.2** and **2603.7**.

**The structural performance and thermal transmission properties of the panels are outside the scope of this evaluation and are subject to specific evaluation and approval by the building plan reviewer.**

### DESCRIPTION AND USE

Crown coolers and freezers consist of wood-framed wall and ceiling panels with foamed-in-place urethane insulation cores, and galvanized or Galvalume or stainless steel cladding (0.0625 thick). A

variety of optional wall and floor finishes are available. Panels have tongue and groove construction and are joined together using a cam lock fastener that is operated with a hex wrench.

\*Coolers and freezers can be provided with or without load bearing ceilings and floors.

## **TESTS AND RESULTS**

Factory Mutual Research conducted their full-scale room corner test (**FM 4880**) on galvanized steel-faced panels for wall/ceiling with **5-inch** thick polyurethane cores (Foam Enterprise's FE 246). The wall/ceiling panels met the Factory Mutual Research requirements for a Class I fire rating and met code requirement for use without a thermal barrier and 30 foot height limitation.

**ASTM D1929** test data for flash ignition and self-ignition temperatures: flash ignition 842° F (450° C) and self-ignition 986° F (530° C).

**ASTM E84** test was conducted the polyurethane cores (Foam Enterprise's FE 246). The results are as follows: Flame Spread Index 20

Smoke Developed Index 265

**ASTM E84/UL 723** tests was conducted on the panel assembly. The results are as follows:

Core Material		4 and 5 inch thick painted or unpainted <b>aluminum</b> finished panels
Flame Spread Index	25	25
Smoke Developed Index	450	450
Core Material		4 and 5 inch thick painted or unpainted <b>steel</b> finished panels
Flame Spread Index	25	15
Smoke Developed Index	450	300

**ASTM D482** test data for ignition residue: the residue left after ignition of the test specimens was 0.24% by weight.

The test data is on file with the department.

## **LIMITATIONS OF APPROVAL**

The **IBC** limitations below are in accordance with of the current **Wisconsin Amended ICC 2000 Code**:

- **Nonstructural Wall and Ceiling Panel:** Section **IBC 2603.7** allows the use of the Trade Name: CrownTonka and Thermalrite panels without a thermal barrier and automatic sprinkler system based on diversified tests up to a maximum height of 30 feet. The CrownTonka and Thermalrite panels are approved for use to a maximum height of 30 feet without a thermal barrier and without an automatic sprinkler system (for refrigerated facilities and freezer warehouses), required under **ss. IBC 2603.3** and **Exception 2.**, and **ss. IBC 2603.4.1.2, 2603.4.1.3** and **2603.5.2**.

### **NOTES:**

1. For refrigerated buildings only, building heights exceeding 30 feet, and panels up to 5 inches thick maximum, thermal barriers on both sides of the panel shall be required for proper protection.

2. Other sections of the code may require an automatic sprinkler system based on limitations of occupancy, area, height, etc., or may specify stricter height limitations.

Installation shall be in accordance with the Factory Mutual Research listings, the manufacturer's instructions and this evaluation. In the event of conflicts, the more strict requirements shall govern.

**\* Coolers and freezers with load bearing ceilings and floors HAVE NOT BEEN EVALUATED.**

Installation and maintenance shall be in accordance with the manufacturer's instructions.

This approval will be valid through December 31, 2007, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Building Product Evaluation number must be provided when plans that include this product are submitted for review.

**DISCLAIMER**

The department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement not specified in this document.

Revision Date:

Approval Date: March 10, 2003

By: \_\_\_\_\_

Lee E. Finley, Jr.  
Product & Material Review  
Integrated Services Bureau

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